9110-9F

DEPARTMENT OF HOMELAND SECURITY

[Docket No. DHS-2013-0018]

Request for Information (RFI) Regarding the Planned Biotechnology Development Module (BDM) As Part of the National Bio and Agro-Defense Facility (NBAF) and Notice of Public Workshop

AGENCY: Department of Homeland Security, Science and Technology Directorate

ACTION: Request for Information and Notice of Workshop

SUMMARY: The Department of Homeland Security (DHS) Science and Technology Directorate (S&T), Office of National Laboratories (ONL) and the United States Department of Agriculture (USDA), Agricultural Research Service (ARS) and Animal and Plant Health Inspection Service (APHIS) are requesting information regarding utilization alternatives for the planned Biotechnology Development Module (BDM) a planned component of the National Bio and Agro-Defense Facility (NBAF). The BDM will provide a distinct environment for scientific synergy, attract animal health industry involvement and serve to encourage public-private partnerships as countermeasures developed for agricultural biodefense emerge from NBAF. The information provided by industry and other interested stakeholders in response to this RFI will be used by DHS and USDA to better plan the scope, capacity, and utilization alternatives for the BDM facility. DHS and USDA are requesting that this information be provided in writing per the guidelines below. There will also be an opportunity for interested parties to participate in a workshop with DHS and USDA.

DATES: The Request for Information period will be 60 days (March 5 to May 3, 2013). Please submit written information no later than May 3, 2013.

The workshop will be held on March 22, 2013 from 8:30 AM – 4:00 PM CST.

ADDRESSES: Written Information should be submitted via email to: nbafprogrammanager@dhs.gov ATTN: Mary Goobic.

The workshop will be held at the Kansas State University Olathe Campus (Forum Hall) 22201 W. Innovation Drive, Olathe, KS 66061.

If you are interested in participating in the public workshop, please register at www.dhs.gov/nbaf by March 18, 2013.

FOR FURTHER INFORMATION CONTACT: Mary Goobic, 202-254-6144.

SUPPLEMENTARY INFORMATION:

Request for Information Instructions

Written information should be submitted via email to: nbafprogrammanager@dhs.gov, subject line should read: 'BDM RFI Response, ATTN: Mary Goobic' no later than May 2, 2013. Submissions should be limited to **5 pages** and should address the following four main topics:

- Scope of the BDM (requirements, program drivers, technology)
- Operational Requirements (staffing, regulatory, equipment needs)
- Utilization Alternatives (collaboration space, user facility, work for others, etc)
- Mechanisms to Facilitate Collaboration Between Industry and Government (joint venture)

The written information should provide feedback on the above information and address the following questions (please see below for additional details on the plans for the BDM):

1. Are there additional or different perceived needs for the BDM?
2. How much interest is there for utilizing the BDM?
3. Is the BDM right sized for capacity?
4. What are the proposed utilization alternatives for the BDM?
5. What are the possible mechanisms to enhance collaboration between the BDM and the animal health biologics industry?
6. Provide lessons learned for DHS to consider regarding the BDM.

Workshop

To further facilitate the information exchange between the government and the biologics industry, DHS will conduct a public workshop as part of the RFI process. The goals of the workshop are: 1) Provide an overview of the planned mission requirements of the BDM; 2) Provide the proposed BDM design; 3) Review analogous current and planned biological countermeasure development initiatives; 4) Gauge industry interest in the utilization of the BDM to enhance collaboration. This workshop is designed to provide information on the NBAF BDM and how it fits within the broader context of countermeasure development for protecting U.S. agriculture. A panel discussion is scheduled to give industry an opportunity to share lessons learned and insights on BDM related operations.

The workshop will be held from 8:30 AM – 4:00 PM CST on March 22, 2013 in Olathe, KS at the Kansas State University Olathe campus. If you are interested in attending, please register at the following link: www.dhs.gov/nbaf by March 18, 2013. This

workshop will include several panel discussions and we encourage participation from industry representatives to present their perspectives and lessons learned on this opportunity for collaboration with the federal government. If you are interested in participating in the panel discussions, please indicate a representative from your organization to serve as a panel member when you register online. Early registration is recommended due to limited seating. There is no registration fee for the workshop. If you need special accommodations due to a disability, please contact Mary Goobic at 202-254-6144 at least 7 days in advance of the workshop.

Additional information such as design layouts, schematics, any other significant questions and any amendments or changes to the RFI will be posted on the NBAF website (www.dhs.gov/nbaf). Questions regarding the workshop may be submitted by email to nbafprogrammanager@dhs.gov ATTN: Mary Goobic.

Scope of the BDM

The BDM is designed to support the early development and eventual license of products/reagents discovered at the NBAF laboratory. The goal of the BDM is to provide product quality assurance, master cell and seed stocks, upscale validation, and assay development to support the development of biologics, which will allow quicker regulatory reviews and approvals of materials and products to respond to potential emergencies and threats to national and global food stocks. The BDM would address critical needs, including pilot manufacturing processes to effectively transfer new technologies to the veterinary biologics and biopharmaceutical industries and, in some emergency situations, to the end users in the field to control and eradicate a foreign animal disease outbreak.

One of the limitations of moving animal health research results to agribusiness is the cost and inefficiencies in developing the manufacturing process; this is an even a bigger issue for foreign animal diseases since there is a limited market for countermeasures developed to control diseases that do not exist in the United States. The BDM will enable the federal government (USDA-ARS, USDA-APHIS, and DHS) to implement early product development initiatives in partnership with private sector greatly increase the rate of success of technology transfers. The BDM will be constructed to enable Good Manufacturing Practices (GMP) and support translational studies by producing test materials to develop potential therapeutic and preventive countermeasures for animal agriculture. The BDM will support customers from all three NBAF user groups (DHS S&T, ARS, and APHIS) as well as potential industry collaborators. The proposed BDM is intended to produce small scale GMP-compliant biological countermeasures for supporting efficacy studies and early phase clinical trials in response to DHS and USDA program requests. The BDM has been designed to manufacture experimental diagnostics, biologics, and therapeutics designed for the detection, control, and eradication of foreign animal diseases in the United States. These countermeasures may also be used to help developing countries control and where feasible eradicate endemic agents that pose a

threat to United States animal agriculture. The model for the GMP/BDM facility, and its supporting areas, is to create small quantities of materials beyond proof of concept, using clinical processing to provide consistent/reproducible products and processes to confirm product safety and effectiveness. The design of the GMP/BDM Suite will support clinical investigations focusing on product safety, purity, potency, and efficacy that will lead to licensed products in compliance with U.S. regulations as well as international standards. The BDM's design will provide flexibility for a variety of product types and manufacturing processes, including production of monoclonal antibodies, recombinant proteins for therapeutics/diagnostic applications, and live or inactivated recombinant viral and bacterial vaccines, and dedicated areas for formulations and aseptic fill-finish operations. The development of qualified master cell and seed stocks (for manufacturing viral and bacterial vaccines) will be a critical activity to accomplish the mission. In addition, the facility will support the evolution of existing countermeasures (vaccine and diagnostic) programs by providing small scale production of experimental test materials for use in the clinical and analytical components of late stage discovery and early stage development of countermeasures discovered by NBAF scientists.

Operational Requirements

The BDM is designed as part of the NBAF laboratory to support the growth, collection, and purification of products in individual Production and Diagnostic Reagent Production Suites. The BDM is 8,300 square feet and consists of production suites and general support spaces for small scale production of biological countermeasure materials for supporting efficacy studies and early phase clinical trials. By implementing validated processes to reproduce materials consistently, the program will hasten candidate technology transfer and countermeasure product candidate transition from NBAF to industry partners for scale-up and commercial manufacturing. This will also allow for more targeted outsourcing of countermeasures development processes, as candidates emerging from the NBAF will be more attractive to the animal biologics industry.

The BDM will meet the APHIS Center for Veterinary Biologics requirements for manufacturing biological products and will have the flexibility, when necessary, to operate in accordance with current GMP regulations as described in Title 21 CFR Parts 210, and 211, such as during the production of master seeds, drug substances (DS), and drug products (DP). The NBAF BDM will allow the production of pilot lots of veterinary biological candidates to be tested to assess their potential for successful licensure by the APHIS Center of Veterinary Biologics, and will be produced under APHIS manufacturing requirements. APHIS has issued a comprehensive set of regulations governing the licensing of viruses, serums, toxins, or analogous products (9 CFR Parts 101-123). These regulations broadly categorize viruses, serums, toxins or analogous products as "biological products" at any stage of production intended for use in the treatment of animals and act primarily through the direct stimulation, supplementation, enhancement, or modulation of the immune system or immune response. Additional veterinary drugs or products will be submitted to and licensed by the FDA Center for

Veterinary Medicine. Candidates will be manufactured in compliance with the appropriate CFR requirements for the conduct of controlled and uncontrolled studies utilizing active components in animal models.

The BDM will operate to enable positive and negative air flows, as well as BSL-2 containment with BSL-3 enhanced production areas to support the development of inactivated and attenuated recombinant viral products. The BDM will be utilized 24 hours a day, based on a year-round production schedule once fully operational. The facility will also allow simultaneous production of small amounts of multiple vaccine candidates. The BDM is attached to the NBAF laboratory to assure proximity. Card/Access Security Control will be established to maintain access control to the building as well as each of the manufacturing suites and access corridors of the GMP/BDM. Proximity Card access will be established to assure that only properly trained and security authorized personnel are allowed in each of the zoned areas of the module. Card access will also be used to maintain the clean zones and material and equipment transfer into the manufacturing suites.

Air cleanliness classifications are established in the GMP/BDM per ISO and International EU requirements for possible DS and DP exposure. Open product manufacturing, processing, and fill-finish will be performed under laminar flow classified room air or within containment via biosafety cabinets (BSC) or laminar flow (LAF) hoods to assure product integrity. Air cleanliness will be maintained within the product exposure areas under Class 100/A, ISO 5 conditions. Cleanliness of this air will be maintained through cascade of classifications in adjacent areas required to maintain flow of material, equipment, and personnel through the space. These classifications will be maintained for cleanliness requirements and containment requirements of the CDC, and the FDA for materials in use and products manufactured or finished. Pressurization of spaces to supplement air flows will also be utilized to assure containment of particulates, contaminants, and regulated agents.

Utilization Alternatives

DHS plans to operate the BDM as a government owned, government operated (GOGO) laboratory. However, DHS is evaluating utilization alternatives for the BDM that will maximize the use of the facility. DHS is seeking feedback from industry on utilization alternatives or alternative approaches such as privatizing the construction and operations of the BDM.

The key criteria that DHS is considering in its evaluation are:

- Facility and Scientific Oversight
- Ability to Respond to Changing Mission
- Facility Availability

- Ability to Establish Collaborations
- Safety and Security
- Technology Transfer
- Cost Effectiveness
- Outside Funding
- Risk of Failure/Bankruptcy
- Liability

DHS would like feedback on other criteria that should be considered in the decision making process.

Mechanisms to Facilitate Collaboration with Industry

The BDM presents opportunities to further collaborate with industry partners in the development of countermeasures to protect animal agriculture in the United States, as well as developing countries that are endemic for priority diseases that pose a threat to global food security. The BDM will enable and facilitate technology transfer to national and multinational industry partners and contract manufacturing organizations (CMO) for scale-up and quicker turnover to commercial product manufacturing. The importance of on-site potential for development and scale-up production of material has been recognized by DHS and USDA as an important capability for the site as an integral step towards the development of countermeasures. Additional feedback or suggestions on other potential opportunities for collaboration are welcome.

NBAF Mission

The United States' food and animal agriculture supply is a highly integrated, open, global, and complex infrastructure. Increased imports of agricultural products, climate change, and growing numbers of international travelers to and from the U.S. have opened our food supply to possible intentional, natural, or accidental foreign animal disease outbreaks. The recent pandemic H1N1 outbreak and other regional foot-and-mouth disease outbreaks have demonstrated the vulnerabilities present when there is a lack of available countermeasures, and other rapid response capabilities to curb outbreak disease. The food and agriculture industries are a significant contributor to U.S. economic prosperity; therefore, the loss of a significant food market would have dire economic and potentially human health consequences. To supply the needed capabilities, the DHS and the USDA have the joint responsibility to protect our Nation's animal agriculture and public health from these threats. The DHS is leading these efforts through the construction of the NBAF in Manhattan, Kansas.

NBAF will be a state-of-the-art biocontainment facility for the study of foreign animal, emerging and zoonotic (transmitted from animals to humans) diseases that threaten the U.S. animal agriculture and public health. NBAF will provide and strengthen our nation

with critical capabilities to conduct research, develop vaccines and other countermeasures, and train veterinarians in preparedness and response against these diseases. For the past 50 years, the Plum Island Animal Disease Center (PIADC) has served our nation as the primary facility to conduct research on livestock diseases. However, PIADC is nearing the end of its life-cycle and needs to be replaced in order to meet U.S. research requirements and ensure the timely development of countermeasures in the event of an outbreak. NBAF meets that need and will serve as a replacement for the PIADC facility. Strategically, NBAF will boast of new and expanded capabilities, specifically, Biosafety Level (BSL) 4 containment for the study of high-consequence diseases affecting livestock and people. Specifically, NBAF will meet its mission by 1) providing enhanced capabilities to research, rapidly detect, and provide training on foreign animal, emerging and zoonotic diseases in livestock; 2) providing expanded vaccine and countermeasure development capabilities; and 3) replacing and expanding research currently performed at the PIADC in Orient Point, New York while continuing the partnership between the DHS and the USDA-ARS and USDA-APHIS.

NBAF will serve as a U.S. government facility capable of rapidly producing experimental biological, diagnostic, and vaccine related products for potential use by USDA in an outbreak of an emerging or foreign animal disease. Initially, the following diseases would be studied at NBAF and would also require BSL-3 and BSL-4 laboratory capabilities: Nipah Virus, Hendra Virus, African Swine Fever, Rift Valley Fever, Japanese Encephalitis Virus, Foot and Mouth Disease, Classical Swine Fever, and Contagious Bovine Pleuropneumonia. The pathogens studied at the NBAF may change based upon continued evaluation of risks to U.S. agricultural system.

Dated: February 26, 2013.

Daniel M. Gerstein,
Deputy Under Secretary
Science and Technology Directorate
U.S. Department of Homeland Security

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